

# New taxa and nomenclatural notes on the flora of the Marojejy Massif, Madagascar. III. Rubiaceae. A new species of *Sabicea*

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## ABSTRACT

*Sabicea marojejyensis* Razafimandimbison & J.S. Mill. is described from the Marojejy Massif in northeast Madagascar. The combination of its slender climbing habit, lanceolate to narrowly elliptic leaf blade, elongate peduncles, and bracteate inflorescences distinguish it from the five other species of *Sabicea* in Madagascar.

## KEY WORDS

*Sabicea*,  
Rubiaceae,  
Madagascar,  
Marojejy.

## RÉSUMÉ

*Nouveaux taxons et notes nomenclaturales pour la flore du massif de Marojejy, Madagascar. III. Rubiaceae. Une nouvelle espèce de Sabicea.*

Description de *Sabicea marojejyensis* Razafimandimbison & J.S. Mill., du Massif de Marojejy situé au Nord Est de Madagascar. Par son port élancé et grim pant, ses feuilles lancéolées à étroitement elliptiques, ses pédoncules floraux allongés, et ses inflorescences bractéifères, elle se distingue des cinq autres espèces de *Sabicea* de Madagascar.

## MOTS CLÉS

*Sabicea*,  
Rubiaceae,  
Madagascar,  
Marojejy.

*Sabicea* Aublet, a member of Rubiaceae, subfamily Cinchonoideae, tribe Isertieae (sensu ROBRECHT 1988) is a tropical genus that WERNHAM (1914) treated as comprising 105 species, with 39 in the Neotropics, 62 in tropical Africa, and 5 in Madagascar, one of which is shared with Africa. HALLÉ (1961) later recognized 81 species in tropical Africa alone, so although no recent treatment exists for other parts of the world, the total number of species in the genus clearly exceeds what was known to

Wernham. *Sabicea* is circumscribed by a usually scandent habit, axillary inflorescences, white corollas with valvate lobes, a 3-5-locular, rarely 2-locular ovary, with numerous ovules in each locule, and indehiscent, fleshy fruits (HALLÉ 1961; 1966; BRIDSON & VERDCOURT 1988. Four of five species recognized in Madagascar by WERNHAM (1914) have strongly anisophyllous leaves and the fifth had whorled leaves. All five are characterized by laciniate stipules.

Recent collecting efforts in the Réserve

Intégrale No. 12 de Marojejy have yielded a number of species new to science (MILLER & PIPOLY 1993; MILLER in press; MILLER & RANDRIANASOLO 1998) including the following new Rubiaceae.

**Sabicea marojejyensis** Razafimandimbison & J.S. Mill., *sp. nov.*

*Liana. Folia persistentia, in quoque pari isophylla; lamina lanceolata ad anguste-elliptica, 2.8-7 cm longa, 0.4-0.6 cm lata, apice basique acuta, supra glabra, infra tomentosa, petiolo 0.2-0.5 cm longo, stipulis ca. 1 cm longis, profunde laciniatis. Inflorescentia ex umbella 3-7-flora axillari bracteis spathulatis subtenta constans; pedunculo 1.1-9.2 cm longo, glabro, floribus sessilibus bracteolis linearis 3-10 mm longis subtentis. Flos calyce ca. 2.5 mm longo, arachnoideo, lobulis 4, erectis, filiformis, 7-8 mm longis; corolla hypocrateriformi, 5-8 mm longa, lobulis 5, valvatis, triangularibus, ca. 3 mm longis; ovarium trilobulari, stylo ca. 6 mm longo. Fructus albus, sessilis subsessilis, ca. 1 cm longus.*

TYPE.—Miller & Lowry 4065, Madagascar, Antsiranana prov., Réserve Naturelle de Marojejy; along the trail to the summit of Marojejy Est, NW of Mandena; wind swept ridges below the third camp, 1,200-1,300 m, 14°26'S, 49°15'E, 14 Feb. 1989 (holo-, MO; iso-, K, P, TAN).

Liana; the stems round in cross-section, densely pubescent when young, the hairs long and adpressed and caduceous with age. Leaves persistent, the pairs symmetrical at each node; blades lanceolate to narrowly elliptic, 2.8-7 cm long, 0.4-0.6 cm wide, the apex acute, the base more or less acute, the adaxial surface glabrous, the abaxial surface covered with thick, velvety, light-colored tomentum, the secondary veins 8-10 pairs; petioles 0.2-0.5 cm long, heavily pubescent when young, the hairs long and adpressed and becoming caduceous with age; stipules interpetiolar, ca. 1 cm long, deeply lacinate. Inflorescences axillary, usually one per node and opposed by a vegetative shoot, a 3-7-flowered umbel subtended by a glabrous, 3-10 mm long spathulate bract, the peduncle 1.1-9.2 cm long, glabrous or with a few scattered adpressed hairs near the apex, with sessile flowers each subtended by a linear bract 3-10 mm long and 0.3-0.7 mm wide. Flowers homostylous; calyx tubular, glabrous, ca. 2.5 mm long, 1.5 mm wide at the

mouth, the 5 lobes filiform, erect, 7-8 mm long, ca. 0.3 mm wide, arachnoid pubescent on the outer surface; corolla salverform, 5-8 mm long, 2-2.5 mm wide at the mouth, the 5 lobes valvate, spreading, narrowly triangular, ca. 3 mm long, 1.5 mm wide at the base, the apex acute, the upper portion of the tube and exterior surface of the corolla pilose, pilose in the mouth and upper parts of the tube; anthers borne in the mouth of the tube, the upper half exerted, 3-3.5 mm long, nearly sessile on short filaments less than 1 mm long; ovary glabrous, 2-locular, the style ca. 6 mm long, glabrous, the 2 stigmas spathulate, ca. 1 mm long. Inflorescence axillary, with 1-3 fruits, the peduncle 1.7-3.8 cm long. Fruits white, sessile to subsessile, round to widely ovoid, 0.9-1.0 cm long, 0.6-0.7 cm broad, smooth and glabrous, the fruiting calyx lobes 0.8-1.2 cm long; seeds numerous, very small, reticulate.—Figs. 1, 2.

DISTRIBUTION AND HABITAT.—*Sabicea marojejyensis* is known only from the Marojejy Massif in wet, evergreen forests from 770-1,300 m in elevation.

PARATYPES.—MADAGASCAR: *Miller 3533*, Antsiranana Province, Réserve Naturelle Marojejy, along the trail to the summit of Marojejy Est, below the third camp, 1,100-1,300 m, 10 Oct. 1988 (MO, P, TAN); *Randrianasolo 63*, Antsiranana Province, Réserve Nationale No. 12 - Marojejy; sentier au Camp 3, au-dessus du village de Manantenina, 770-1,000 m, 25 Mar. 1990 (MO, P, TAN); *Rasoavimbahoaka 550*, Antsiranana Province, Réserve Naturelle Intégrale de Marojejy, Sambava, environ 10 km de Maroambihy et 8 km de Mandena, soit environ 16 km suivant la piste de Mandena vers Antsahaberoka, 1,000 m, 14°25'40"S., 49°45'50"E, 26-27 Mar. 1995 (K, MO, P, TAN, TEF).

DISCUSSION.—*Sabicea marojejyensis* presents a distinctive series of characteristics that both ally it with and separate it from other species known from Madagascar. It shares lacinate stipules and a tomentulose leaf undersurface with the other Malagasy species. However, all of the previously known species from Madagascar are members of section *Sessiles* Wernham, characterized by having inflorescences sessile in the leaf axils, but *S. marojejyensis* has elongate peduncles supporting

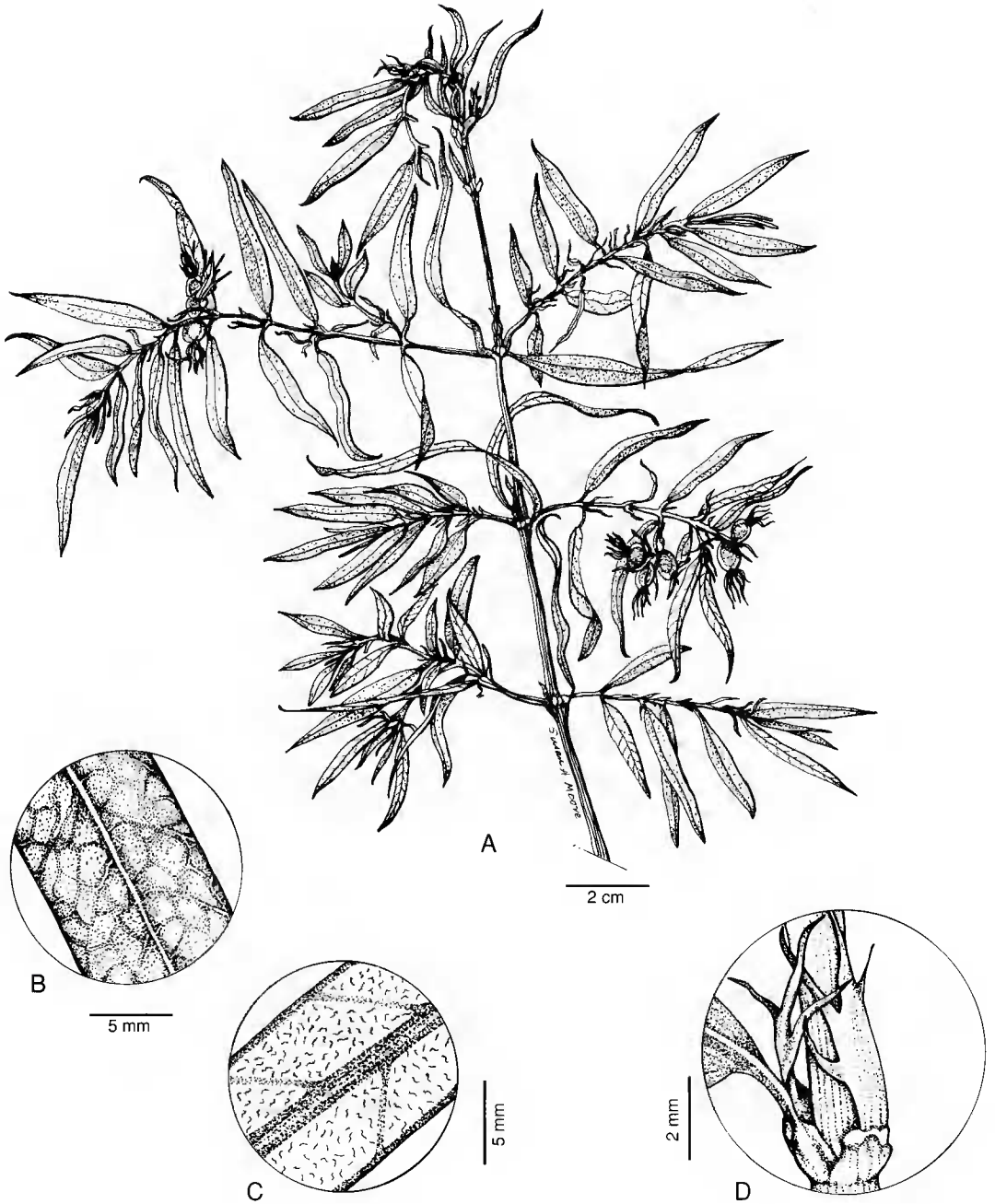


Fig. 1.—*Sabicea marojejensis*: A, branch with mature fruit; B, upper surface of leaf; C, lower surface of leaf; D, node showing stipules. From *Rasoavimbahoaka 550* (MO).

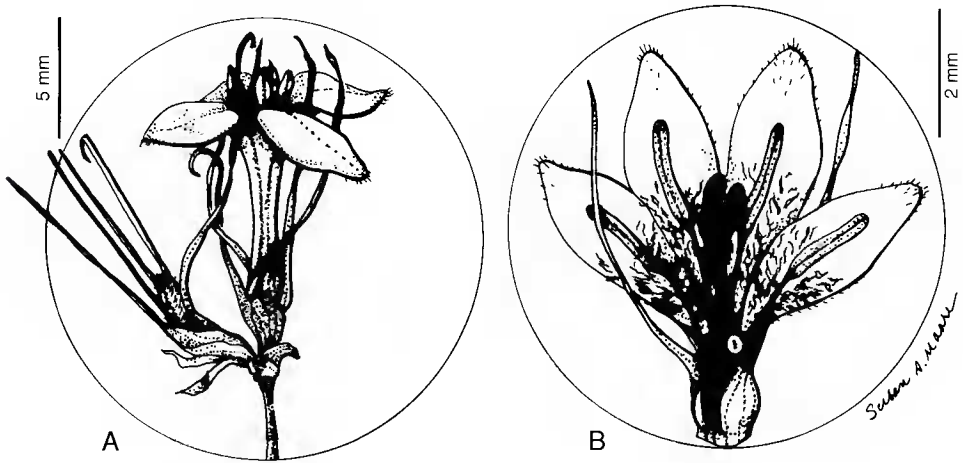


Fig. 2.—Flowers of *Sabicea marojejensis*: **A**, umbel with intact flower and subtending bracts; **B**, flower with opened corolla showing pubescence on the inner surface, stamens, and two-parted stigma lobes. From Miller & Lowry 4065 (MO).

bracteate inflorescences which would place it in section *Capitatae* Wernham, the first member of the section reported for Madagascar. *Sabicea*

*marojejensis* is unusual in having only two stigmas, as compared to five in most other species of the genus.

**The species of *Sabicea* in Madagascar can be distinguished by the following key:**

- 1. Leaves in symmetrical pairs; inflorescences pedunculate umbels in the leaf axils (sect. *Capitatae*) ..... **S. marojejensis** Razafimandimbison & J.S. Mill.
- 1'. Leaves more than 2 per node or strongly anisophyllous; inflorescences sessile in the leaf axils (sect. *Sessiles*) .. 2
- 2. Leaves whorled ..... **S. verticillata** Wernham
- 2'. Leaves opposite, sometimes strongly anisophyllous and appearing alternate ..... 3
- 3. Calyx lobes expanded, flattened ..... **S. seuia** Wernham
- 3'. Calyx lobes subulate ..... 4
- 4. Leaves extremely anisophyllous, appearing alternate by +/- complete reduction of a pair ..... **S. diversifolia** Pers.
- 4'. Leaves anisophyllous, but two evident at each node ..... 5
- 5. Leaves subcoriaceous, lanceolate, branchlets pubescent, corolla less than 2 cm long ..... **S. acuminata** Baker
- 5'. Leaves submembranous, linear-oblong, branchlets arachnoid-glabrous, corolla 6.5 mm long ..... **S. angustifolia** Boivin ex Wernham

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